

Safe, Supportive Environment - Overview

Key points

- *Creating a safe environment includes protecting the public, preventing and controlling disease.*
- *Children should be free of abuse and neglect.*
- *The quality of care received by seniors is vital to their health and safety.*

Why is a safe, supportive environment important?

Living in unhealthy environments decreases years of healthy life and life expectancy. The health of every individual, regardless of the stage in the life cycle (infant, child, adolescent, adult or senior), is affected by the environment in which he or she lives.

- The premise that children should be safe in their child care facility, free from the risk of child abuse or neglect, is basic.
- The quality of the care received by senior citizens is vital to their health and safety.
- Maintaining a safe environment requires controlling or eliminating hazardous substance exposure and the health impact associated with a biological, chemical, or nuclear event.

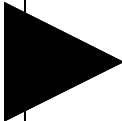
Why is a safe, supportive environment a critical issue for Missouri?

- **Child Care—**
 - ✓ In Missouri 426,489 children under the age of six live in households with at least one parent. (2000 census data)
 - ✓ On June 30, 2002, Missouri licensed child care facilities and license-exempt facilities (nursery schools and facilities operated by religious organizations) with a capacity of approximately 149,000 children.

- **Senior Care —**
 - ✓ In 2025, Missouri's population of seniors is projected to be approximately 20% of Missouri's total population.
 - ✓ Approximately four of every 10 people turning age 65 will use a nursing home at some point in their remaining life.
 - ✓ At any given time, about 5% of Missouri's senior population (49,185 in 2000) lives in a nursing home.
- **Health Care —**
 - ✓ Adequate systems of care, with appropriate staffing levels of health care practitioners, are essential to the early detection and treatment of disease in order to lessen the impact on the health and financial status of individuals.
 - ✓ Systems for prevention and early detection of disease, both chronic and infectious, are a financial benefit to communities.
 - ✓ Missouri's hospitals admit more than 750,000 patients each year.
 - ✓ More than 110,000 procedures were performed in Missouri's ambulatory surgical centers during 2000.
 - ✓ In 2001 there were approximately 18,600 life-threatening ambulance and helicopter runs in Missouri.
- **Safe Environment—**
 - ✓ Extended exposure to certain hazardous substances can lead to chronic adverse conditions of many bodily systems and illnesses, such as various cancers, kidney disease, liver disease and damage to the central nervous system.

- ✓ Acute exposures to high levels of hazardous substances can lead to various illnesses and even death. As a result, there are increases in health care costs and psychological effects of the poisoned individuals and their families. If the exposure came from a hazardous waste site near a property, decreased property values may also occur and cause economic

- ✓ Surveillance systems enable the quick detection of health changes that may be associated with a biological, chemical or nuclear event. In 2003, the High Alert Surveillance System was enhanced into sentinel surveillance. There are up to 100 strategically selected sites that report syndromic data **daily**, in order to have near “real time” information to make timely decisions.

 SUCCESS INDICATORS	Healthy People 2010	2000 Baseline	2001 Actual	2002 Actual	2003 Target	2004 Target	2005 Target
Incidence of child abuse and neglect in regulated child care facilities	N/A	45	43	49	39	37	35
Incidence of elder abuse	N/A	9,870	9,761	9,906	9,906	9,700	9,700
Percent of Class I deficiencies issued to nursing homes	N/A	4.5%	2.3%	1.2%	2.3%	2.3%	2.3%
Percent of monitored in-home service providers sanctioned for quality of care issues	N/A	N/A	N/A	N/A	Establish Baseline	N/A	N/A
Incidence of substandard hospital care (accidental tissue penetrations or hemorrhages, foreign objects left in body, instrument failures, medication errors and sterilization failures as measures of medical errors)	N/A	2,570	2,803	Avail Jan.04	3,330	3,596	3,830
Number of federally designated geographic health professional shortage areas	N/A	38	38	36	35	34	33
Incidence of poisoning from hazardous substances	N/A	49	167	175	48	46	44
Percent of sentinel surveillance sites that report daily syndromic data	N/A	N/A	N/A	NA	85%	90%	95%

Success Indicator:

- Incidence of child abuse and neglect in regulated childcare facilities

What are the trends?

- The number of complaints registered in regulated child care facilities declined from 1999 to 2002 while the number of regulated child care providers for those same years fluctuated.
- The number of allegations of child abuse/neglect increased from 408 in 1998 to 449 in 2002. These were co-investigated with staff from the Division of Family Services.
- In 2002, there were 49 substantiated child abuse/neglect findings in regulated child care facilities, in addition to violations of licensing standards identified in each of those investigations.
- During the two calendar years ended December 31, 2002, the Family Care Safety Registry registered 71,518 child care workers and processed 46,928 requests for background screenings on child care workers.

CHILD CARE	1998	1999	2000	2001	2002
Number of regulated child care providers	4,912	4,625	4,649	4,630	4,467
Number of complaints in regulated child care facilities	N/A	1,919	2,086	1,825	1,712
Number of co-investigations involving allegations of child abuse/neglect in regulated child care facilities	408	353	343	423	449
Incidence of substantiated child abuse and neglect occurring in regulated child care facilities	60	57	45	43	49

Source: Missouri Department of Health and Senior Services, Division of Health Standards and Licensure, Bureau of Child Care.

Success Indicators:

- Percent of in-home service providers monitored that were sanctioned for quality of care issues
- Incidence of elder abuse
- Percent of Class I deficiencies issued to nursing homes

What are the trends?

In 2002, the reports of abuse/neglect/exploitation (A/N/E) of the elderly and adults with disabilities in the home and community setting remained nearly the same as in 2001. Of the A/N/E investigations completed in 2002, 75% were found to be either supported by a substantial amount of evidence or were probable

or likely. The remaining investigations did not find evidence to support the reported allegations.

- In 2002, the reports of abuse/neglect (A/N) of the elderly and adults with disabilities in institutional settings decreased 16% from 2001. Of the A/N investigations completed in 2002, nearly 23% were found to be valid. The remaining investigations were found to be invalid or could not be verified.
- The number of Class I deficiencies increased in 2002, while the percentage of Class I deficiencies continued to drop. This occurred due to the continuing rise in the total number of deficiencies issued for all classes.
- During the two calendar years ended December 31, 2002, the Family Care Safety Registry registered 54,383 elder care and personal care workers and processed 35,708 requests for background screenings on elder care and personal care workers.

SENIOR CARE Elder Abuse-Home or Community Setting	1998	1999	2000	2001	2002
Reports of A/N/E in home or community setting*	13,386	14,099	14,732	15,718	15,331
Completed investigations of home and community A/N/E*	11,761	12,467	12,572	12,773	12,976
Reason to Believe	6,630 (56.4%)	6,851 (55.0%)	7,169 (57.0%)	7,204 (56.4%)	7,228 (55.7%)
Suspected	2,581 (21.9%)	2,687 (21.5%)	2,447 (19.5%)	2,363 (18.5%)	2,517 (19.4%)
Elder Abuse - Institutional Setting					
Reports of A/N in long-term care facility*	716	683	787	849 (corrected)	709
Completed investigations of A/N in long-term care facility*	698	616	922	818 (corrected)	708
Valid	154 (22.1%)	185 (30.0%)	254 (27.5%)	194 (23.7%) (corrected)	161 (22.8%)
Class I Deficiencies					
Number and Percent of Class I deficiencies issued to nursing homes	N/A	124 (9.4%)	79 (4.5%)	54 (2.3%)	71 (1.2%)

*Includes seniors and adults with disabilities.

Source: Missouri Department of Health and Senior Services, Division of Health Standards and Licensure, Section for Long-Term Care Regulation;
Missouri Department of Health and Senior Services, Division of Senior Services.

Success Indicator:

- Incidence of substandard hospital care due to accidental tissue penetrations or hemorrhages, foreign objects left in body, instrument failures, medication errors and sterilization failures as measures of medical errors

What are the trends?

Medical errors continue to emerge as one of health-care's biggest safety issues.

In 2000, the Institute of Medicine (IOM) reported that preventable medical errors in United States hospitals might result in 44,000 to 98,000 deaths each year. Using the lowest estimate, medical errors in hospitals becomes the eighth leading cause of death. More people die of preventable medical errors than motor vehicle accidents (43,458), breast cancer (42,297), or AIDS (16,516) each year.

One type of medical error, medication-related error, does not always result in actual harm to patients, but those that do cause harm are costly. The IOM report states that two out of every 100 admissions experience a preventable adverse drug event resulting in an increased hospital cost of \$4,700 per admission. In 2000, there were 680,571 hospital admissions in Missouri. Using the information above the department estimates that medication errors increased hospital costs by \$63,970,000 in Missouri in 2000.

Since hospitals represent only a part of the health care delivery system, the actual number of medical errors across the health care system, including the home care system, could be even higher.

Although Missouri does not currently have a mechanism for collecting data on all medical errors, hospital discharge information indicates an upward trend over the past several years in the reporting of certain inpatient and outpatient discharge codes that could be considered as medical errors.

Incidence of Substandard Hospital Care

HEALTH CARE	1997	1998	1999	2000	2001
Incidence of substandard hospital care due to accidental tissue penetration or hemorrhage, foreign object left in body, instrument failure, medication errors and sterilization failures as measures of medical errors	2,207	2,485	2,345	2,570	2,803

Source: Missouri Department of Health & Senior Services, Center for Health Information Management & Evaluation

Complaints received from consumers regarding care provided by DHSS-regulated health care providers can also be used to help describe the problem. The following chart shows the increase in the total number of complaints received over the past five years.

Consumer Complaints Regarding Care Provided By DHSS Regulated Health Care Providers

Provider	1998	1999	2000	2001	2002
Hospitals	100	243	409	453	533
EMS ¹	48	49	61	39	54
Home Health and Hospice	44	51	47	56	52
Other Medical Facilities ²	**	**	19	24	28

Source: Missouri Department of Health and Senior Services, Division of Health Standards and Licensure.

*Care provided by DHSS-regulated health care providers

**Not available

¹ This number reflects a combination of investigated complaints concerning ambulance services, and emergency medical technicians.

² This number reflects complaints received concerning abortion clinics, birthing centers, ambulatory surgical centers, end-stage renal disease facilities, rural health clinics, laboratories and x-ray facilities.

Interventions that work:

Enforcement of the Rules and Regulations (both state and federal) Pertaining to Child Care, Senior Care and Health Care

One of the main interventions in securing an environment that is safe, supportive and conducive to a healthy lifestyle for all Missourians is enforcement of the rules and regulations (both state and federal) pertaining to child care, senior care, and health care.

Enforcement begins with ensuring that the necessary statutes, regulations, policies and procedures are in place to allow adequate enforcement activities. The major components of enforcement of state and federal rules and regulations include:

- Licensure and inspection
- Follow up on complaints
- Quality monitoring and training

Maintaining good communication with staff, providers, and the public is an important component of enforcement. Staff must receive thorough and timely training on rules and regulations to ensure complete and consistent inspection, licensing, and investigative activities. Providers must be kept informed of changes in rules and regulations, they must be appropriately informed in a timely manner of deficiencies and corrective action that is needed, and they must be provided information on quality of care improvement topics. It is vitally important that the public has access to information about providers, and rules and regulations so they can make informed decisions. Consumers must also know whom to contact if they need additional information or if they want to communicate a concern about a regulated provider, whether it be child, senior, or health-care related.

Missouri has been involved since October 2001, along with the state of Utah, in the Utah-Missouri Patient Safety Demonstration Project. This is a 3-year study funded by the Agency for Healthcare Research and Quality (AHRQ). It is one of 24 projects funded by AHRQ to study patient safety reporting systems. The study is designed to evaluate the use of hospital-reported discharge data to monitor patient safety events and also to provide information feedback to hospitals via quarterly adverse event reports. The project will also evaluate the use of the quarterly reports as an information resource for hospital licensure surveys. The project involves collecting information from 40 selected hospitals in Missouri. Information will come not only from the discharge data, but also from a sample of medical records selected for review and a survey on hospital practices and policies designed to reduce patient safety problems. Part of the project includes making available to the 40 selected hospitals educational materials and activities which emphasize evidence-based best practices and recommended strategies for improving patient safety in the hospital setting.

DHSS Strategies for Supporting the Intervention

1. Develop and implement methods for obtaining feedback from consumers on the services of providers regulated by the DHSS.
2. Develop and implement consistent methods for assignment and tracking of complaint investigations to ensure timely response.
3. Develop and implement inspection and investigative processes that cross program lines in order to more efficiently and effectively utilize resources.
4. Review and analyze statistical information to assist in evaluating the success of enforcement and communications efforts.
5. Develop a plan, utilizing available resources, to address the issue of medical errors.

Success Indicator:

- Number of federally designated health professional shortage areas

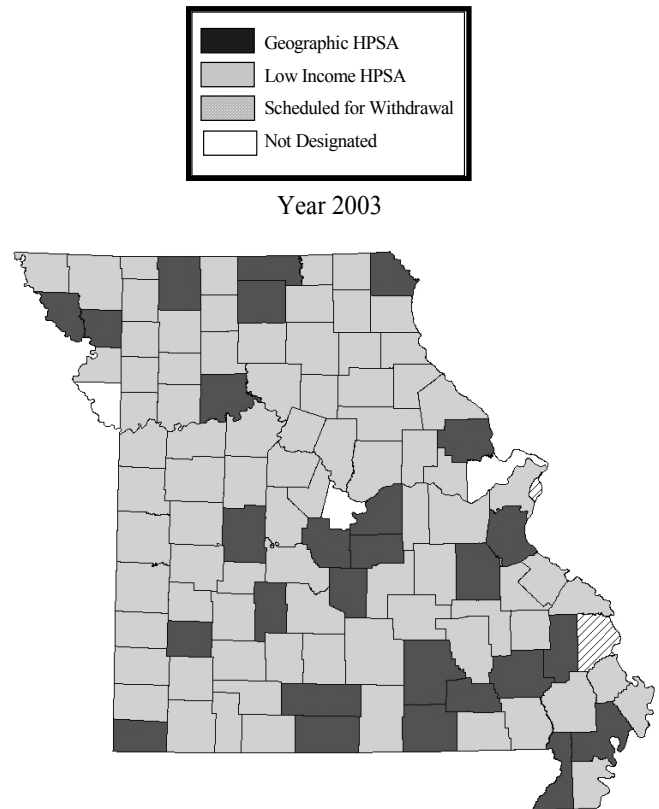
What are the trends?

Although the number of physicians and especially primary care physicians has increased, the number of federally designated health professional shortage areas (HPSAs) has also increased. These seemingly conflicting facts indicate improvements in primary care access for people in general, while of access for low-income citizens is decreasing.

There are two different types of HPSAs, geographic and low-income. Geographic HPSAs are based on the ratio of primary care physicians to the general population, while low-income HPSAs are based on the amount of care provided to Medicaid and uninsured patients.

In the past five years the number of geographic HPSAs has decreased in Missouri by 25%. However, the number of counties in the state designated as low-income HPSAs has increased by more than 1,000%. The Primary Care HPSA map shows the distribution of these two types of HPSAs in Missouri.

**Designated Primary Care Health Professional Shortage Areas By County and By Type
As of October 1, 2003**



Interventions that work:

Comprehensive Approach Focusing on Eliminating or Reducing Primary Care Health Professional Shortage Areas

Public health, in collaboration with other state and local partners, plays a central role in developing and implementing the following interventions focused on eliminating or reducing Primary Care Health Professional Shortage Areas:

- Developing community-based systems of care;
- Recruitment of health professional students from areas of need;
- Provision of incentives to health professional students to return to underserved areas; and
- Provision of clinical training experiences in underserved communities.

DHSS Strategies for Supporting the Intervention

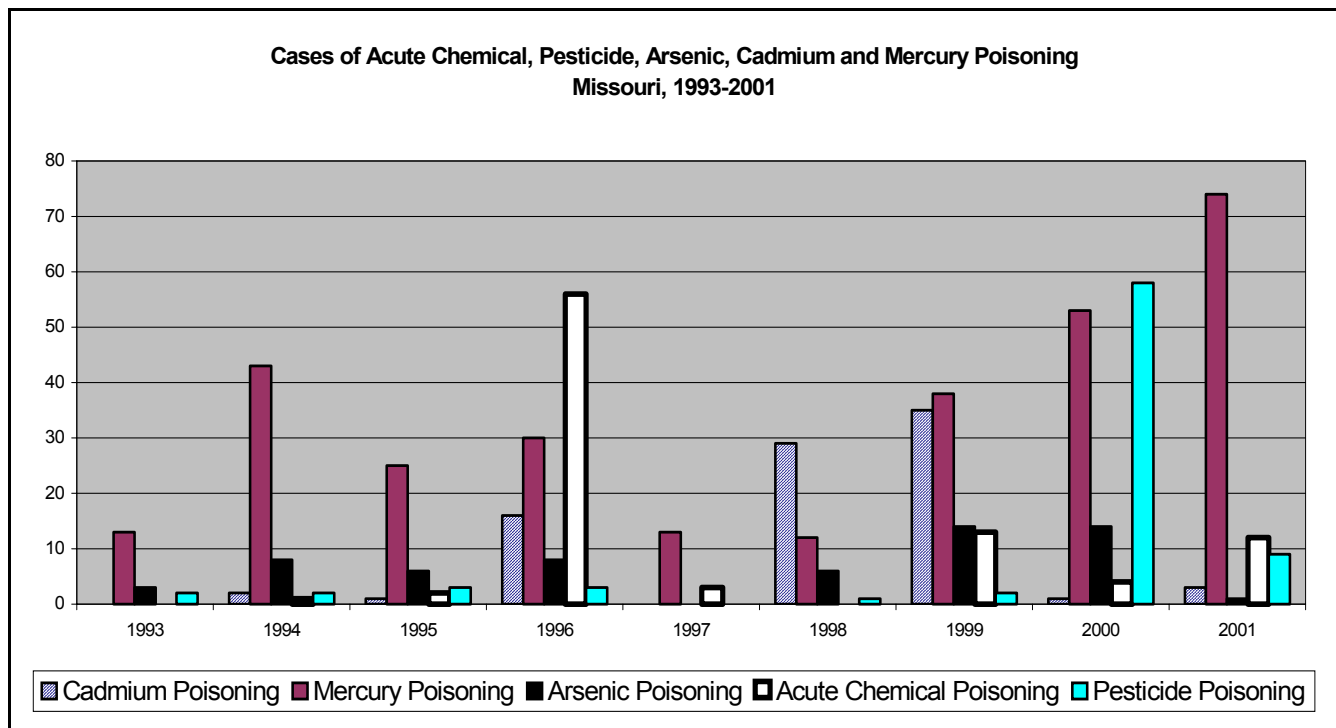
1. Expanding and enhancing health professional incentive programs to include student financial aid, loan repayments, and direct subsidies in order to increase the number of participating primary care professionals.
2. Developing the primary care component of the Missouri Health Care Workforce model, to determine need for and supply of population-based health care services.
3. Increasing the number of community-based health care delivery systems that accept Medicaid, Medicare assignment and providing sliding fee scales to increase access to services for the underinsured and uninsured populations.
4. Developing and implementing a tool to prioritize Missouri communities based on need for health care services and the infrastructure needs to obtain those services.
5. Coordinating with the Department's community development initiatives to build support for community based systems of care on an ongoing basis.

Success Indicators:

- Incidence of poisoning from hazardous substances (acute chemical, heavy metal, lead and pesticides)
- Percent of sentinel surveillance sites that report daily syndromic data

What are the trends?

The following table shows the number of acute chemical, pesticide, arsenic, cadmium and mercury poisonings from 1993 through 2001. In general, trends are not apparent and the numbers of cases reported are relatively low. The increase in the number of mercury poisonings may be related to the addition of two mercury case reporting sources (laboratories) during 2001.



Source: Department of Health and Senior Services, Division of Environmental Health and Communicable Disease Prevention, Office of Surveillance.

Interventions that work:

Environmental Management: Hazardous Substances

The purpose of environmental management is to determine the source(s) of exposure to hazardous substances or biological contamination and identify control measures.

Successful interventions range from residential soil replacement and health education in lead-contaminated communities to carbon filtration and other treatment systems on private drinking water wells contaminated with volatile organic chemicals. Prior to these interventions, public health assessment activities should regularly take place (e.g., annual private well sampling around hazardous waste sites).

DHSS Strategies for Supporting the Intervention

1. Respond to public inquiries on hazardous substances and environmentally induced human diseases/conditions.
2. Assess human exposure to substances at hazardous waste sites.

Interventions that work:

Emergency Response and Terrorism

Biological contamination or threats: Medical research has revealed decreased morbidity and mortality of life threatening illnesses if intervention occurs in the syndromic phase of the illness. Promoting awareness and education of both the threat of bioterrorism and the need for participation in both active and passive surveillance statewide motivates hospitals, emergency rooms, outpatient facilities, physicians, schools and others to become reporting sites.

In direct response to the events of September 11, 2001, the Centers for Disease Control and Prevention mandated that each state initiate a syndromic bioterrorism surveillance system. Early detection of possible biological or chemical threats decreases morbidity. Determining trends and aberrations at this stage will allow timely interventions and restrict the scope and magnitude of an outbreak or bioterrorist event where waiting for confirmed diagnosis could cause interventions to come too late to be useful.

Missouri was the first to implement a statewide bioterrorism surveillance system based on syndromic categories derived from the CDC that promotes awareness and education of both the threat of bioterrorism and public health emergencies and participation in both active and passive surveillance statewide to hospitals, emergency rooms, outpatient facilities, physicians, schools and other reporting sites of strategic significance. Through this system we have been able to identify school absenteeism, outbreaks of influenza and other indicators of illness, which have led to early interventions and control measures to prevent the spread of disease. Syndromic data is critical to the state's rapid response in the event of a terrorist act.

The Syndromic Categories of Data Collected

Influenza-like Illness
Hemorrhagic Disease
Gastrointestinal Illness
Neurologic Illness
Rash Illness
Fever Illness
Respiratory Illness (Other than influenza-like illnesses)
Chemical Exposure

DHSS Strategies for Supporting the Intervention

1. Develop and maintain a sentinel surveillance system that collects and analyzes syndromic data in near real-time.
2. Detect and initiate timely response to chemical, biological, radiological terrorist events and public health threats at the earliest possible point.
3. Ensure that each region will have a regional bioterrorism plan that is approved by the DHSS.

Interventions that work:

Population-Based Surveillance Systems

Surveillance systems within the Missouri Department of Health and Senior Services are set up to track many diseases and health conditions, such as communicable diseases, cancer, lead poisoning, sexually transmitted diseases, behavioral risks, birth defects, head injuries, etc.

These systems protect Missourians by enabling the appropriate response to identify high risk populations and threats to the population. These systems are dependent upon working in partnership with private medical care providers.

Disease surveillance systems provide for the ongoing collection, analysis, and dissemination of data to prevent and control disease. Disease surveillance data are used by public health professionals, medical professionals, private industry, and interested members of the general public in numerous ways to:

- identify cases for investigation and follow-up
- estimate the magnitude of a health problem and follow trends in its incidence and distribution
- formulate and evaluate control and prevention measures
- detect outbreaks or epidemics and generate appropriate interventions
- monitor changes in infectious agents (e.g., antibiotic resistance, emerging infections)

- facilitate epidemiologic and laboratory research detect changes in health practice (e.g., impact of use of new diagnostic methods on case counts)
- facilitate planning (e.g., allocation of program resources, policy development)

DHSS Strategies for Supporting the Intervention

1. Create electronic transfer of data from laboratories and medical care providers to the department.
2. Improve the feedback reports to the providers.